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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/841,972	04/25/2001	Thanabalan Paul	67742-14	6201

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EXAMINER	
PATEL, NIKETA I	

ART UNIT	PAPER NUMBER
2182	

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/841,972	PAUL ET AL.	
	Examiner	Art Unit	
	Niketa I. Patel	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 January 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12 and 19-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Koistinen et al. U.S. Patent Number: 6,154,778 (hereinafter referred to as "*Koistinen*".)

3. **Referring to claims 1, 5, 10 and 19,** *Koistinen* teaches providing quality of service for applications in multiple transport protocol environments [see column 2, lines 42-49, 59-64 and column 4, lines 18-24, 33-36] which comprises: creating a QoS negotiation request for a client application at a client QoS negotiator [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14]; transmitting the QoS negotiation request from the client QoS negotiator to a server QoS negotiator [see column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines

37-67 and column 12, lines 1-14]; adjusting server QoS parameters in response to the QoS negotiation request [see column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14]; creating a QoS negotiation response at the server QoS negotiator, the QoS negotiation response containing connection information and server QoS information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14]; transmitting the QoS negotiation response to the client QoS negotiator [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14]; adjusting client QoS parameters in response to the QoS negotiation response [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14]; and connecting the client application to a server application using the connection information and the server QoS information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

4. **Referring to claim 2**, *Koistinen* teaches the method further comprising: monitoring the client QoS parameters and the server

QoS parameters as the client application and the server application communicate; detecting changes in network conditions and data requirements of the client application and the server application; and adjusting the client QoS parameters and the server QoS parameters in response to said changes [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

5. **Referring to claim 3**, *Koistinen* teaches the method wherein the step of adjusting server QoS parameters further comprises adjusting server bandwidth, server buffer, and server cache parameters [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

6. **Referring to claim 4**, *Koistinen* teaches the method wherein the step of adjusting client QoS parameters further comprises adjusting client bandwidth, client buffer, and client cache parameters [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

7. **Referring to claim 6,** *Koistinen* teaches the method further comprising: monitoring the client application for changes in data requirements [see column 15, lines 47-67 and column 16, lines 1-24]; detecting changes in network conditions at the client sending a second QoS request to the server in response to the changes in data requirements or the changes in network conditions [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20]; receiving a second QoS response from the server; and adjusting the client parameters in response to the second QoS response [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

8. **Referring to claim 7,** *Koistinen* teaches the method further comprising repeating the steps of claim 6 until execution of the client application terminates [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

9. **Referring to claim 8,** *Koistinen* teaches the method wherein the step of constructing the QoS request further comprises:

identifying application type information and application QoS requirements; and storing the application type information and application Qos requirements in the QoS request [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

10. **Referring to claim 9**, *Koistinen* teaches the method wherein the step of adjusting client settings further comprises setting bandwidth, buffer, and queue parameters of the client [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

11. **Referring to claim 11**, *Koistinen* teaches the method further comprising: receiving a second QoS request send by the client in response to changes in data requirements or network conditions [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20]; adjusting server parameters in response to the second QoS request; creating a second QoS response; and transmitting the second QoS response to the client [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11,

lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

12. **Referring to claim 12,** *Koistinen* teaches the method wherein the step of adjusting server parameters further comprises setting bandwidth, buffer, and queue parameters of the server [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

13. **Referring to claim 20,** *Koistinen* teaches wherein said client QoS negotiator is disposed above and communicates with a client socket layer [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 13-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koistinen et al. U.S. Patent Number: 6,154,778 (hereinafter referred to as "*Koistinen*".)

16. **Referring to claim 13**, *Koistinen* teaches a generic quality of service protocol comprising: a client information storage unit [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20]; a proxy information storage unit, an application profile information storage unit, means for storing transport QoS profile information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20]; means for storing per-protocol QoS profile information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20]; and means for storing QoS map order information however does not set forth the limitation of an ICMP header for transmitting the protocol as an out-of-band message.

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention that it was old and well known in the computer art to get the advantage of reporting

errors such as out-of-band to other peer machines by using the Internet Control Message Protocol header. It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to include ICMP header to get this advantage.

17. **Referring to claim 14**, *Koistinen* as modified in claim 13 above teaches, the protocol wherein said client information storage unit further comprises: means for storing operating system type information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20]; means for storing workstation configuration information; means for storing processor architecture information and means for storing network architecture information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

18. **Referring to claim 15**, *Koistinen* as modified in claim 13 above teaches, the protocol wherein said proxy information storage unit further comprises: means for storing proxy IP addresses; and means for storing proxy port numbers [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-

12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

19. **Referring to claim 16,** *Koistinen* as modified in claim 13 above teaches, the protocol wherein said application profile information storage unit further comprises: means for storing application source information; means for storing application class information; means for storing application bandwidth requirements; means for storing data transfer rates; and means for storing response times [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

20. **Referring to claim 17,** *Koistinen* as modified in claim 13 above teaches, the protocol wherein said means for storing transport QoS profile information further comprises: means for storing protocol available client protocols; and means for storing server protocol grants [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

21. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Koistinen et al. U.S. Patent Number: 6,154,778

(hereinafter referred to as "*Koistinen*") as applied to claim 13 above, and further in view of Arunachalam et al. U.S. Patent Number: 6,631,122 (hereinafter referred to as "*Arunachalam*".)

22. **Referring to claim 18,** *Koistinen* as modified in claim 13 above teaches means for storing per-protocol QoS profile information [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.] *Koistinen* does not set forth the limitation of the protocol wherein said means for storing per-protocol QoS profile information further comprises: means for storing ATM connection information; and means for storing ATM address information, however *Arunachalam* teaches these limitations [see column 3 - lines 50-67] in order to allow a client to communicate with a server via asynchronous transfer mode services.

One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite advantageous for the system of *Koistinen* to be able to store ATM connection information in order to allow a client to communicate with a server via asynchronous transfer mode services. It is for this reason that one of ordinary skill in the art would have been motivated to implement means to store ATM connection

information in order to allow a client to communicate with a server via asynchronous transfer mode services.

23. Claims 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koistinen et al. U.S. Patent Number: 6,154,778 (hereinafter referred to as "*Koistinen*") as applied to claim 19 above, and further in view of Arunachalam et al. U.S. Patent Number: 6,631,122 (hereinafter referred to as "*Arunachalam*".)

24. **Referring to claims 21, 23,** *Koistinen* teaches providing quality of service for applications in multiple transport protocol environments [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.] *Koistinen* does not set forth the limitation of the architecture wherein said client socket layer and the server socket layer further comprises ATM, RSVP, TCP/UDP, and IPv6 protocols, however *Arunachalam* teaches these limitations [see *Arunachalam* column 12 - lines 59-67, column 13 - lines 1-9 and column 6 - lines 13-20] in order to allow a client to use various types of communication protocols to communicate with a server.

One of ordinary skill in the art at the time of applicant's invention would have clearly recognized that it is quite

advantageous for the system of *Koistinen* to have socket layer comprising ATM, RSVP, TCP/UDP, and IPv6 protocols in order to allow a client to use various types of communication protocols to communicate with a server. It is for this reason that one of ordinary skill in the art would have been motivated to have socket layer comprising ATM, RSVP, TCP/UDP, and IPv6 protocols in order to allow a client to use various types of communication protocols to communicate with a server.

25. **Referring to claim 22**, *Koistinen* as modified in claim 21 above teaches the architecture wherein said server QoS negotiator is disposed above and communicates with a server socket layer [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

26. **Referring to claim 24**, *Koistinen* as modified in claim 21 above teaches the architecture wherein the client QoS negotiator negotiates a QoS profile with the server QoS negotiator by exchanging messages and sharing information through the generic QoS protocol [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

27. **Referring to claim 25**, *Koistinen* as modified in claim 21 above teaches the architecture wherein the client QoS negotiator sets local bandwidth, buffer, and cache parameters for the client application [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

28. **Referring to claim 26**, *Koistinen* as modified in claim 21 above teaches the architecture wherein the server QoS negotiator sets local bandwidth, buffer, and cache parameters for the server application [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

29. **Referring to claim 27**, *Koistinen* as modified in claim 21 above teaches the architecture wherein the client QoS negotiator and the server QoS negotiator connect the client application to the server application based upon the QoS profile [see column 6, lines 23-57 and column 9, lines 60-67 and column 10, lines 1-12 and column 11, lines 37-67 and column 12, lines 1-14 and column 14, lines 55-67 and column 15, lines 1-20.]

Response to Arguments

30. Applicant's arguments, see pages 9-13, filed 01/18/2005, with respect to the rejection(s)of claim(s) 1-27 under *Arunachalam (U.S. Patent Number: 6,631,122)* have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of *Koistinen*.

Conclusion

31. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents have been made record of to further show the state of the art as it pertains to the quality of service negotiation:

Lumelsky et al. U.S. Patent Number: 6,529,950 B1

Lumelsky et al. U.S. Patent Number: 6,516,350 B1

Donovan U.S. Patent Number: 6,366,577 B1

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Niketa I. Patel whose telephone number is (571) 272 4156. The examiner can normally be reached on M-F 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey A. Gaffin can be reached on (571) 272 4146. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

NP
04/12/2005

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